

APPENDIX 3

Cross-Reference of Corridor Management Plan Actions and Objectives

Cross-reference of Objectives and Action Items for the Lower Merrimack River Corridor Management Plan

Goal 1		Administration <i>Coordinate the implementation of LMRAC goals, objectives, and actions with corridor towns.</i>
Objective:	1.1	Strengthen relationships with local or regional entities involved in protection or management of the Lower Merrimack River or its tributaries by coordinating at least one joint activity or meeting with these groups, yearly. <ul style="list-style-type: none"> 1.1.1 Inform and educate citizens and enforcement officials on the applicable federal, state and local regulations to ensure proper understanding of the regulation and the rationale behind them. 1.1.2 Facilitate a process by which projects within the river corridor being reviewed by local Conservation Commissions are simultaneously reviewed by the LMRLAC.
Objective:	1.2	Internally improve LMRLAC as an organization by evaluating membership, duties, and public awareness of the organization on a yearly basis. <ul style="list-style-type: none"> 1.2.1 The communities and other organizations should use the power of the press to its fullest in promoting the issues and activities surrounding the river. Publicize all public meetings, clean-up days, public access dedications, recreation events and volunteer activities. 1.2.2 Utilize the assistance of the Nashua Regional Planning Commission to conduct a series of meetings in each corridor community to discuss the information contained in the Merrimack River Corridor Management Plan and its recommendations. 1.2.3 Seek training for the Local Advisory Committees from DES so that LACs are better able to assist in notification and enforcement of violations. 1.2.4 Actively recruit new membership into the LMRLAC.
Objective:	1.3	Contribute to violations and enforcement activities by partnering with state and local authorities <ul style="list-style-type: none"> 1.3.1 Encourage DES to increase enforcement of existing environmental regulations such as dredge and fill of wetlands and NPDES violations. 1.3.2 Report any violations of federal, state or local regulations. To facilitate citizen reports, LMRLAC should partner with the Conservation Commissions and police departments of the four communities to work jointly on developing a process by which citizens and municipalities can follow in reporting wetland, stormwater, shoreland protection, and pollutant discharge violations. As part of this cooperative effort, informational pamphlets describing the applicable regulations and the appropriate violations reporting options should be distributed. A website for information on violation should also be created so that citizens can be more involved in reporting local conditions.
Goal 2		Conservation <i>To retain open space along the Lower Merrimack River corridor.</i>
Objective:	2.1	Preserve the natural character of undeveloped/underdeveloped properties along the Lower Merrimack River by partnering with municipalities in conservation efforts. <ul style="list-style-type: none"> 2.1.1 Partner with local Conservation Commissions to sponsor regularly scheduled informational meetings on topics related to river conservation that are of interest to community residents. The discussions should focus on the impacts of individual actions and the benefits derived from the river. Suggested topics include: <ul style="list-style-type: none"> • protection of water resources and water conservation; • impacts of non-point pollution sources (NPS) on water quality and what can be done to decrease NPS on an individual basis; • conservation mechanisms available to private landowners and the benefits of the different alternatives; • proper applications of fertilizers and pesticides for weekend gardeners and homeowners; • care and maintenance of septic systems; and • historic resources of the corridor.

- 2.1.2 Develop asset inventory logs for all undeveloped / underdeveloped properties within the Lower Merrimack River corridor.
- 2.1.3 Partner with the local Conservation Commissions to support requests for funding the purchase of conservation easements and land in their annual budget request. Provide Conservation Commissions with support documentation on priority properties deserving protection.
- 2.1.4 Partner with local Conservation Commissions in each community to develop information pamphlets to be enclosed with regular mailings on river conservation issues.
- 2.1.5 Request the Hudson Board of Selectmen to dedicate all revenue from the current use land use change tax for the purchase of conservation lands.
- 2.1.6 Request that the corridor community municipal officials include funds for the purchase of conservation easements and lands in the capital improvements program on an annual basis. LMRAC should encourage the Conservation Commissions to submit conservation funding requests.
- 2.1.7 Conduct a study to quantify the economic benefit of open space in each community.
- 2.2 *Conserve prime and active farmland within the Lower Merrimack River corridor through purchase of easements and/or development rights and adoption of local regulations which protect farmlands.*
 - 2.2.1 Adopt innovative zoning for conservation subdivision regulations in Litchfield. Conservation subdivisions can be used to conserve open space, prime and active farmland, environmentally sensitive areas and significant wildlife habitats.
- 2.3 *Retain the existing character of the Lower Merrimack River shoreline by planning a “greenbelt” system along the Lower Merrimack River shoreline.*
 - 2.3.1 Adopt a watershed conservation district which creates standards for development within areas adjacent to riparian habitats in all four corridor communities to begin the development of a greenbelt along the Merrimack River corridor.

Goal 3	Corridor Management <i>To promote the conservation, protection, and sound management of the Lower Merrimack River corridor.</i>
---------------	---

- | | | |
|------------|-----|--|
| Objective: | 3.1 | Introduce Low Impact Development (LID) techniques and strategies into regulatory approaches to achieve more efficient developments in the Lower Merrimack River corridor. <ul style="list-style-type: none"> 3.1.1 <i>Adopt impervious surface limitations that restrict development to less than 15% allowable impervious surface within the river corridor.</i> |
| Objective | 3.2 | Implement regulations to address setback, buffer, and shoreland protection issues within the Lower Merrimack River corridor. <ul style="list-style-type: none"> 3.2.1 Support local communities in the development and adoption of local river protection regulations which identify permitted uses and their requirements, as well as give development standards for the allowable locations of public and private boating docks. 3.2.2 <i>Adopt local wetlands, stormwater, surface, and groundwater land use regulations in each corridor community that will provide a level of protection that maintains the existing condition of the Merrimack River.</i> 3.2.3 Protect steep slopes and other environmentally sensitive areas through adoption of land use regulations that prohibit or limit development in these river corridor areas. 3.2.4 Adopt regulations that limit alterations to natural stream channels and banks and require restoration for already degraded streambank segments and mitigation of unavoidable impacts to stream and river banks. 3.2.5 Adopt local shoreland protection regulations in all four corridor communities that are designed to protect the Lower Merrimack River according to specific local needs and conditions. 3.2.6 Determine a tiered set of required buffer distances for use in regulating land uses adjacent to the Merrimack River based upon the hydrology and topographic features surrounding this unique riparian resource, acknowledging that a one-size-fits-all setback may not be the most appropriate or equitable means of managing this surface water. 3.2.7 Amend or adopt floodplain regulations in corridor communities to restrict the construction or enlargement of buildings and structures within the 100-year floodplain. Periodically inundated with water, floodplains are best suited for low intensity uses such as recreation where little damage to property will occur. |

- 3.2.8 Partner with the corridor communities' Conservation Commissions to amend the wetland regulations to include the following:
 - 75-foot minimum setback for buildings, structures, and parking areas
 - 50-foot required vegetated buffer for wetlands
 - 125-foot minimum setback for septic systems and leachfields located in somewhat poorly drained soils or soils with a rapid or very rapid permeability.
- 3.2.9 Amend the local excavation regulations in all four communities to prohibit excavations within the shoreland zone and to allow them as a special exception within a specified distance of the shoreland. Excavations change the hydrologic patterns of runoff, increase the susceptibility of the area to erosion and degrade visual quality.
- 3.2.10 Amend the subdivision and site plan review regulations in all four communities to include requirements to maintain and manage vegetative buffers between site developments and surface waters, including developments that facilitate public access to the Lower Merrimack River. These regulations should include development standards that limit cutting of vegetation within sensitive areas.

- | | | |
|-----------|-------|--|
| Objective | 3.3 | Implement mitigation requirements that counteract development impacts to corridor resources and values. |
| | 3.3.1 | Encourage the adoption of mitigation requirements when the natural appearance and function of shoreland elements are degraded, both in new construction and for existing developments. |
| Objective | 3.4 | Encourage connectivity in the management of Lower Merrimack River corridor resources. |
| | 3.4.1 | Support designation of the Nashua River into the Rivers Management and Protection Program by assisting in the nomination and designation process. |
| | 3.4.2 | Support DES and the New Hampshire Legislature in adopting additional surface water protection regulations. |

Goal 4	Historic Resources <i>To promote, preserve, enhance, and protect the historic sites, buildings, character, and settings of the Lower Merrimack River corridor.</i>
---------------	--

- | | | |
|------------|-------|--|
| Objective: | 4.1 | Identify and protect the historic resources of the Lower Merrimack River corridor. |
| | 4.1.1 | Conduct historic resource surveys of the river corridor in each community through volunteer efforts. The NRPC can provide assistance to the organizations interested in conducting historic surveys. |
| | 4.1.2 | Obtain assistance in preparing National Register applications for eligible sites. |
| Objective: | 4.2 | Increase public interest in and knowledge of Lower Merrimack River corridor historic resources and historic preservation tools. |
| | 4.2.1 | Partner with corridor community historic preservation offices to publicize updates to historic resource inventories. |

Goal 5	Public Access and Awareness <i>To increase public access to and use of the Lower Merrimack River.</i>
---------------	---

- | | | |
|---------------|-------|---|
| Objective: | 5.1 | Increase the recreational use of the Merrimack river corridor by at least 20% as measured in numbers and types of recreational users over the next 10 years by increasing the quality of the recreational resource. |
| Action Items: | 5.1.1 | Encourage corridor communities to acquire public access easements along the shoreline to be used for a recreational trail within the River corridor. |
| | 5.1.2 | Utilize service organizations in each community to construct and maintain existing and future trail networks. Encourage organizations to adopt sections of the trail and become responsible for their maintenance. |

	5.1.3	Request conservation and pedestrian easements along the river during the site plan and subdivision review processes in all four communities. These areas can then be used to meet the open space and recreation requirements. RSA 674:36, Subdivision Regulations, and RSA 674:44, Site Plan Review Regulations authorize communities to include open space and recreation land criteria in their regulations and to consider these criteria when reviewing development proposals.
	5.1.4	Encourage increased police presence at existing and future public areas on the river to protect visitors, to discourage vandalism, loitering and other inappropriate behavior, and to enforce use restrictions. This will become increasingly more important if individual landowners agree to public access easements across their property.
	5.1.5	Establish standard hours of operation for any public river-related recreational facilities and provide access to the facility during those hours.
Objective:	5.2	Increase the recreational use of the Merrimack river corridor by at least 20% as measured in numbers and types of recreational users over the next 10 years by increasing the quantity of the recreational resource.
Action Items:	5.2.1	Increase public access to the Lower Merrimack River through development of a non-motorized recreational trail system along the shores of the Lower Merrimack River.
	5.2.2	Develop additional boat launching facilities along both sides of the Lower Merrimack River corridor.
	5.2.3	Acquire and develop public boat access areas in each community. Communities should consider utilizing both municipally owned properties as well as purchasing land along the river. When developing public boat access areas, both sides of the river should be serviced appropriately.
	5.2.4	Develop a continuous trail system along the shores of the river. The trail should follow the riverbank wherever possible. In instances where existing development presents a barrier the trail should skirt around the development and come back to the riverbank when possible. Develop a plan for construction and maintenance of a corridor trail system that provides incremental phasing for sections of trail which may be accomplished within distinct planning phases.
	5.2.5	Develop parking areas at strategic locations to provide additional river access that minimize neighborhood impacts.
	5.2.6	Investigate the possibility of developing shared parking programs between municipal buildings and/or private firms to provide additional evening and weekend parking for trail and river users wherever possible.
	5.2.7	Facilitate the leasing of the Greeley Park boat ramp from the City of Nashua to the NH Fish and Game Department to allow for facilities improvements including adequate parking and boat launch facility.
Objective:	5.3	Increase the knowledge of local citizenry of the Lower Merrimack River corridor resources by conducting at least yearly information dissemination efforts.
Action Items:	5.3.1	Increase public awareness of the Merrimack River as an asset to the four communities through which the Lower Merrimack River flows and to the region as a whole through development of flyers, public service announcements, recreational opportunities, and partnerships with other entities having high media profiles.
	5.3.3	<i>At least once a year, distribute educational information that discusses the wise use of the Lower Merrimack river and its corridor environment to corridor community schools and civic groups.</i>
	5.3.4	<i>Organize recreational opportunities for the general public at least twice a year that are designed to provide positive recreational experiences to users in order to facilitate greater appreciation for river resources.</i>
	5.3.5	Develop a clearinghouse for useful information related to landowner liability, responsibility, and opportunity concerning use of public recreational facilities which cross private property.
	5.3.6	Develop a database of Lower Merrimack River corridor property owners, updated at least once a year, to assist municipalities, conservation commissions, and the LMRLAC in communicating with landowners on important corridor issues and opportunities.

- 5.3.7 Establish a trained team of volunteers within each community to facilitate education and recreation programs that emphasize the wise use of the river through recreational programs and uses. Educational messages should focus on conservation and recreational uses, but should also be flexible enough to provide landowners with answers to questions regarding liability and law enforcement. Where possible, volunteer programs should be incorporated into schools as to be accessible to youth and families.
- 5.3.8 Partner with the local Conservation Commissions and historical societies in each community to develop and install interpretive signs to highlight important natural and historic areas.
- 5.3.9 Acquire and/or improve signage at existing areas and provide signs for future public access areas to identify locations. Existing public access areas are inadequately marked and difficult to find. New or improved signs should be designed to increase public awareness of and access to river facilities.
- 5.3.10 Develop maps and information brochures in each community showing the location and the conditions of use for each public access point, the trail and shared parking area, and significant natural and historic areas; and have them readily available at the municipal building.

Goal 6 Restoration
To restore river conditions to those ecologically endemic to the natural state of the River.

- Objective: 6.1 Restore and enhance the Lower Merrimack River corridor streambank to more natural conditions.
- Action Items:
- 6.1.1 Clean up river habitats and shoreland areas that are already polluted with debris, contaminants, and garbage to improve site-specific water quality.
 - 6.1.2 Encourage and educate Conservation Commissions, developers, and the general public about alternatives to rip-rap streambank stabilization methods.
 - 6.1.3 Encourage active restoration of degraded streambank through the development and implementation of regulatory requirements or incentive based performance standards.

Goal 7 Scenic Quality
To promote the appreciation and protection of special scenic vistas associated with the Lower Merrimack River and its corridor.

- Objective: 7.1 Protect the significant views from the Lower Merrimack River by adopting local regulations that protect views from river user vantages.
- 7.1.1 Adopt height restrictions, in conjunction with shoreland protection regulations, to limit the height of new buildings in the shoreland zone to a maximum of two stories to effectively screen development from the river and maintain the visual integrity of the corridor.
 - 7.1.2 Adopt landscaping regulations, in conjunction with shoreline protection regulations, to screen developments from the river and public recreation areas, including trails.

Goal 8 Water Quality
To protect water quantity in the Lower Merrimack River.

- Objective: 8.1 Compile current data on physical, chemical, and biological indicators of water quality in the Lower Merrimack River corridor.
- 8.1.1 Facilitate active participation in and support local water quality monitoring programs, including sampling for a wide variety of chemical components (VOC, mercury, lead, PCBs, etc.). The results obtained can provide valuable information regarding the health of the State's rivers and streams.
 - 8.1.2 Conduct an inventory of all in-use and abandoned underground storage tanks in each community, paying particular attention to those tanks located in the river corridor or near a tributary. The inventory can be conducted by the conservations commissions and should include the following information: tank volume, age and content, construction material, single or double walled, size and location of additional containment area, leak detection systems, and monitoring. This will supplement information available from the DES Oil Remediation and Compliance Bureau (ORCB) for registered facilities with underground storage capacities of 1,100 gallons or greater. In addition, owners of abandoned tanks should be provided with information and assistance on proper closure. Any faulty tanks detected in the inventory should be reported to the ORCB.

- 8.1.3 Utilize volunteers to conduct useful research into such things as outfall locations and periodic monitoring of effluent reports generated by NPDES facilities.
 - 8.1.4 Study the Lower Merrimack River to encourage the assessment of a wide range of chemical components (VOCs, mercury, lead, PCBs, etc.) to facilitate better understanding of the existing water quality and its trends over time.
- Objective: 8.2 Maintain, restore, and enhance the Class B water quality standard and minimize any further degradation of important biological and chemical indicators through water quality monitoring and inspections.
- 8.2.1 Obtain baseline biological and chemical monitoring data in a format useable for existing state assessment tools.
 - 8.2.2 Identify the strategies most needed to address non-point source pollution through yearly assessments of the top issues contributing to pollution problems in order to minimize NPS in the Lower Merrimack River.
 - 8.2.3 Reduce nutrient loading to the Lower Merrimack River corridor system, including nutrient loading into tributary streams by encouraging yearly voluntary inspections of facilities within the corridor.
- Objective: 8.3 Implement local ordinances and performance standards that further the protection of water quality through regulation of land uses within the Lower Merrimack River corridor.
- 8.3.1 Facilitate the adoption of minimum performance standards for run-off from developments within the river corridor.
 - 8.3.2 Encourage corridor community Planning Boards to adopt regulations that require qualified inspections of development projects to ensure adherence to the community's regulations, conformance with any conditions of the approved development plan, and proper installation and maintenance or erosion and sedimentation control devices.
 - 8.3.3 Develop and adopt aquifer protection regulations in Hudson, Litchfield and Nashua to protect groundwater resources. This is particularly important for Hudson and Litchfield since groundwater is presently their sole source of drinking water. Model regulations and assistance in drafting regulations are available from NRPC. Since the river flows through an aquifer, these regulations will also protect the water quality of the river.
 - 8.3.4 Develop and implement comprehensive road salt application management programs aimed at limiting salt applications within the river corridor in Hudson, Litchfield and Nashua.
 - 8.3.5 Amend the subdivision regulations in Hudson and Litchfield to remove exemptions of smaller subdivisions from needing to complete erosion and sedimentation control plans. This will provide increased protection for the community's wetlands, lakes, ponds, rivers and streams from the negative impacts of erosion and sedimentation. Amend the Nashua site plan review and subdivision regulations to require adequate erosion and sedimentation control during development.
 - 8.3.6 Amend the subdivision and site plan regulations in all four communities to require as a condition of approval a state approved erosion and sedimentation control plan and an alteration of terrain permit for all developments that disturb 100,000 square feet of contiguous earth or 50,000 square feet of contiguous earth within 250 feet of the protected shoreland.
- Objective: 8.4 Participate in state processes which directly or indirectly benefit the protection of river resources within the State.
- 8.4.1 At least yearly, discuss discharger compliance with NHDES in regards to NPDES permits, violations, and ongoing enforcement actions to monitor permit activity in the Lower Merrimack River Corridor.
 - 8.4.2 Monitor all proposals for intakes, discharges and water transfers, and provide comment during the DES 401 Water Quality Certificate review process. The impacts of the discharges on other water uses and users should be specifically described in any proposal documents.
 - 8.4.3 Encourage the Legislature to develop and adopt legislation prohibiting the use of phosphate detergents in the State of New Hampshire. Phosphate bans in other states have contributed to the clean-up efforts of the Great Lakes and the Chesapeake Bay.

- 8.4.4 Encourage DES to continue to jointly protect the water quality and quantity of the Merrimack River in both New Hampshire and Massachusetts. The recent Merrimack River Initiative involving both states provides a good foundation for building interstate cooperation to protect the water quality of the river and the watershed.

Goal 9 **Water Quantity**
To restore and protect water quality in the Lower Merrimack River.

- Objective: 9.1 Maintain flow conditions that will support the outstanding natural, cultural, and recreational resources associated with and dependant upon the Lower Merrimack River by participating in the process for adopting an instream flow for the Lower Merrimack River under RSA 483:9-c.
- 9.1.1 Encourage New Hampshire to develop and adopt minimum instream flow regulations for the Merrimack River and its major tributaries.
 - 9.1.2 Encourage the four communities to work jointly with the State of Massachusetts and the EPA in NHDES efforts to conduct a demand/yield analysis of the Merrimack River to determine the existing types and levels of water use and to project future water demands throughout the watershed.
 - 9.1.3 Encourage the development of a comprehensive study that quantifies the surface and groundwater resources that comprise the drinking water supply of the Lower Merrimack River watershed, so that resource use can be better understood and managed.
 - 9.1.4 Develop and maintain an inventory of flow dependent Instream Public Uses and Outstanding Characteristics and Resources (IPUOCRs).

Goal 10 **Wildlife and Aquatic Habitats**
To maintain and enhance wildlife and wildlife habitat residing within or dependant upon the Lower Merrimack River and its associated corridor.

- Objective: 10.1 Increase the variety of protected wildlife habitats by at least 10% to promote greater diversity in the kinds of wildlife species present within the river corridor.
- 10.1.1 Encourage the corridor communities to include vernal pools as part of their respective local wetlands definitions.
 - 10.1.2 Maintain, enhance, and promote populations of resident and anadromous fish, freshwater mussels, and other aquatic resources.
- Objective: 10.2 Support informed management of habitat and species using information contained in the NHF&G Wildlife Action Plan.
- 10.2.1 Utilize permit review opportunities to facilitate involvement of wildlife and aquatic habitat protection into project designs and development approvals through use of information contained within the NH Wildlife Action Plan.
 - 10.2.2 Incorporate critical wildlife habitat needs into priority ranking of desired conservation lands for use in land or easement acquisition pursuits. Encourage the Town of Merrimack and City of Nashua to include critical wildlife habitat into their land conservation regulations.